

Hannah Lee 5th Grade Science Lesson Plan #2

Hydroponics vs. Soil

Teacher Standards:

3b Using Questioning and Discussion Techniques

3c Engaging Students in Learning

Students Standards:

Science: Standard 7: Interdisciplinary Problem Solving

Key Idea 2: Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and analyzing ideas; realizing ideas; making connections among the common themes of mathematics, science, and technology; and presenting results.

RI.5.7: Draw information from multiple digital or print sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

W.5.3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

W.5.5: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach.

Essential Questions:

1. What are the resources that are needed for hydroponics?
2. How is hydroponics different from soil farming?
3. Why is hydroponic a more effect way of growing plants?

Teaching Point:

To understand the benefits of hydroponics and how it works

Whole-Class Lesson

1. Students will review the powerpoint presentation on the history of hydroponics and discuss how hydroponics benefit our environment.

<http://tlc.peoriaud.k12.az.us/Enviromental%20and%20Agricultural/Hydroponics/lesson1.htm>

2. During the presentation students will fill in the chart with all the important things they need to include into hydroponic to make it successful.

3. After during turn and talk, students will play a short of labeling game where they will label all the parts that are needed in hydroponics. Students will be shown a model and with their partners they will identify the parts.

<http://www.agclassroom.org/ny/resources/pdf/activities/hydro.pdf>

4. For Independent work time, students will compare and contrast the benefits of hydroponics to soil farming. Students could use their notes or research some articles on hydroponics to get supporting evidences. For students who are struggling or has an IEP, they will use a graphic organizers to complete the task.

Assessment/Summary:

Students will be assess on their reflection paragraphs where they need to include which system they think will most benefit our environment and include evidences to support their answer. Also they must include their prediction on which system they like plants will group faster, hydroponics or soil farming and write their reasoning. This prediction will be used for their experiment when we compare both systems.

Rubric

	4	3	2	1
Gathering Information	Gathers a lot of information to answer the questions	Gathers some information for each question	Has information on some of the questions	Little information gathered
Organizing Information	Information is well organized on Notes Sheet	Is able to organize information in some sections	Tries to organize information	Shows little skill in using the Notes Sheet
Using Information	Shows insight in drawing conclusions from information	Makes a decision using all of the information	Uses some information to make a decision	Shows little purpose for gathering data
Thinking	Demonstrates clear, creative thinking and is insightful	Uses some creativity in their approach to the problem	Shows little creative thinking	Exhibits no creative thinking